1: Cunningham G-3 (1846-47) 1854 AJ4 W. Tibetans AJ4



travellers would have to cross the Kárákoram mountains; but as *Tsu-ho* is stated to have been only 1,000 li (about 166 miles) from *Su-le* (or Kashgar), it is clear that Fa-Hian must have followed the western route. This is more distinctly proved by the Chinese identification of *Tsu-ho* with *Chu-kiu-pho*, which was exactly 1,000 li to the westward of Kotan. *Tsu-ho* was therefore midway between Kotan and Kashgar. Klaproth identified it with Kukeyar, and he is probably correct. From *Tsu-ho* the pilgrims proceeded to the south, and over the *Tsung-Ling*, or "Onion Mountains." From Kukeyar to Ladák the road lies to the south over the Kárákoram mountains, which, even as high as 17,000 feet, are covered with wild leeks, thus justifying the Chinese name of Tsung-Ling, or "Onion Mountains."* To the westward of *Kie-chha*, at one month's journey, was *Tho-ly*, or (as it is written by Hwan-Thsang) *Tha-li-lo*, which is an exact transcript of Darel, one of the Dardù districts on the Indus; and which Hwan-Thsang places to the westward of *Po-lu-lo* or Bolor, that is, the modern district of Balti. As Darel is just one month's journey from Lé, the district of Ladák corresponds exactly in geographical position with the ancient kingdom of *Kie-chha*.

3. But the other details, recorded by Fa-Hian, seem to place this identification beyond all doubt. The country was "mountainous, and so cold that no grain but corn ever ripened," which is exactly the case with Ladák. *Kie-chha*, moreover, possessed a stone vase of the same colour as Buddha's alms-dish, besides a tooth of Buddha.

* I owe this fact to Dr. Thomas Thomson, my brother Commissioner on the Tibetan frontier, whose spirit of enterprise carried him to the top of the Kárákoram pass.

1: Cunningham G-3 (1846-47) 1854 AJ4 W. Tibetans AJ4



west by Lahul and Kullu, on the south by Kanáwar, and on the east by the Chinese district of Chumurti. It comprises the whole valley of the Spiti river, from its source to the junction of the Para, a length of about 64 miles. Its mean length is not more than 52 miles, and its mean breadth only 36 miles, which give an area of about 1,900 square miles. The mean elevation of the inhabited parts, as determined by the heights of eight camps, is 12,986 feet.

*Lahul* (or Lho-yul, the "southern district") is bounded on the north by Zanskar and Rukchu, on the west by Káshtwár, on the south by Chamba and Kullu, and on the east by Spiti. It comprises the valleys of the Chandra and Bhaga rivers, as well as that of the Chandra-Bhaga or united stream as far as Treloknáth, below which the people are of Hindu race and religion, with but little admixture of Tibetan blood. With the single exception of the valley of the Indus, Lahul possesses more cultivable land, and a less rigorous climate than any of the other districts of Ladák. There the currant and the gooseberry are both found wild, and in the lower parts of the valley towards Treloknáth the mountain slopes are covered with fir trees. Like Kanáwar, Lahul partakes somewhat of the climate and productions of India as well as of those of Tibet. The people, their language, and their dwellings are mostly Tibetan, but with a strong mixture of Indian origin. Lahul is 68 miles in length by 34 in breadth, which give an area of 2,312 square miles. The mean elevation of its inhabited parts, as determined by the heights of nine camps, is 11,063 feet.

The following table of the extent and mean elevation

1: Cunningham G-3 (1846-47) 1854 AJ4 W. Tibetans AJ4



(Hugh Murray) has apparently corrected the Palow of the older copy to agree with his own identification, and has moreover changed the direction from north-east by *east*, to north-east by *north*, perhaps with a view of bringing it nearer to the true bearing of Kashgár, which is the next place mentioned. Now it is evident from Hwan-Thsang's* statement, that the district of *Pa-lo-lo*, or Bolor, must, in his day, have extended to the north of the Kárákoram range, and that the northern portion from Sir-i-kol to Khafalun, was then, as now, almost uninhabited. This, therefore, in my opinion, is the country which Marco Polo describes.

The Kárákoram Pass was traversed by the Chinese pilgrim Fa-Hian, in A.D. 399.† He calls the range *Tsung-Ling*, or "Onion Mountains," a name which they must have received from the number of wild leeks that grow upon them, and scent the air in all directions. They were found by Dr. Thomson on the elevated plateaux to the south of the pass. Mir Izzet Ullah no doubt alludes to the strong and unpleasant smell of these wild leeks, when he ascribes the headache and difficulty of breathing that are usually attendant on ascending great heights, to the *Esh*, which is a Turki word, signifying "smell."‡

The actual height of only one point in this range has

* Fo-kwe-ki. Appendix. The situation of Belor to the *South* of the Kárákoram is also distinctly proved by the testimony of Abu Rihán, who accompanied Mahmud Ghaznavi to India. Speaking of Kashmir he says, "La partie située au midi et à l'orient appartient aux Indiens, et la partie qui se trouve à l'occident dépend de plusieurs rois, dont *le plus proche* est Belor Shah," that is, the king of Balti.

† Fo-kwe-ki, c. iv.

‡ Quarterly Oriental Magazine, March, 1825, p. 113. The Gerards attributed their headaches to the same cause.

1: Cunningham G-3 (1846-47) 1854 AJ4 W. Tibetans AJ4



beauty by anything that I have seen in the Himálaya, always excepting the lovely valley of the Byâs. The length of this ridge is eighty miles, from the neighbourhood of Chaneni to the southern bend of the Punach river.

The fourth portion of the Sub-Himálaya is altogether unknown. It extends from Koteli to Dhángali, the Ghakar capital on the Jehlam, a distance of twenty-five miles.

The fifth, and most westerly portion of the Sub-Himálaya, stretches from the Jehlam to the Indus, a distance of nearly seventy miles. It rises to an elevation of more than 7,000 feet, and is well clothed with trees on its northern slopes.

In this general survey of the mountain-ranges that bound the Panjáb to the north, I have purposely omitted all mention of the vegetable products that occur at different heights, as this subject naturally forms a part of Dr. Thomson's botanical labours. I have also omitted all notice of glaciers: not that I am unaware of their existence, but because I have seen so few of them that I have nothing to say of them which is worth recording. In 1839, I traversed a magnificent glacier which spanned the valley of the Cheli rivulet, below the Kali Debi Pass (16,700 feet). It was fissured in all directions, and down the main fissure, which was five feet wide, I saw the stream trickling at a depth of more than 300 feet. The surface was covered with hardened snow and imbedded stones; but the mass, as seen in the fissures, was clear transparent ice, filled with white specks. This glacier was about one mile long, and a quarter of a mile broad, with an average depth of 200 or 300 feet. In

1: Cunningham G-3 (1846-47) 1854 AJ4 W. Tibetans AJ4



goats in Ladák must be about 80,000. The average price of a shawl-wool goat is four rupees, and the total value of the flocks of Ladák Rs. 3,20,000, or £32,000.

*Dog*.—The domestic dog* of Ladak is the well-known shepherd's dog, or Tibetan mastiff. They have shaggy coats, generally quite black, or black and tan; but I have seen some of a light-brown colour. They are usually ill-tempered to strangers; but I have never found one that would face a stick, although they can fight well when attacked. The only peculiarity that I have noticed about them is that the tail is nearly always curled upward on to the back, where the hair is displaced by the constant rubbing of the tail.

## II.—VEGETABLE PRODUCTIONS.

### I.—TREES.

The vegetable productions of Ladák are few and unimportant. The trees consist of willow, two varieties of poplar,† a kind of tamarisk, the pencil-cedar, and the *Elæagnus Moorcroftii*.‡ The tamarisk and the pencil-

* The Tibetan name for a dog is *Khyi*.

† *gShol-po* and *dByar-pa*.

‡ Capt. Madden, in the Horticultural Society's Journal, has quoted a passage from Moorcroft, to the effect that "a few willows and poplars are the *only trees* in Ladák," and he then produces the authority of Capt. H. Strachey to show that Moorcroft was wrong. But the fact is, that Moorcroft is right *in what he does say*, for either Capt. Madden or Capt. Strachey has misquoted him. In his Travels, I. p. 267, Moorcroft distinctly states that willows and poplars are the *only timber-trees* in Ladák; and in I. p. 306, he repeats the same thing. But in both places he says *timber-trees;* and he is right; for the *Shukpa* (*Shug-pa*) is too small a tree to yield timber, although, if not held sacred, it might yield wood for boxes. Capt. Madden should have recollected that the *Ser-shing* had been first described by Moorcroft, and was therefore named *Elæagnus Moorcroftii*.

1: Cunningham G-3 (1846-47) 1854 AJ4 W. Tibetans AJ4



cedar (*Shukpa*) are indigenous; the others are all regularly planted. The plane-tree has been introduced into Skardo, where its size and beauty have obtained for it the name of *Shing-Gyal*, "the prince of trees." The poplar is the most valuable wood in the country, as its long straight bole is particularly adapted for bridges, and for the rafters and beams of houses. It is generally planted in straight rows. The willow abounds in all the water-courses, but generally in the state of a pollard, as its supple twigs and branches are extensively used for baskets of all kinds and hurdles. These two trees were first met with at Gya, at a height of 13,500 feet. They furnish the only fire-wood procurable in Ladák; but wood is too valuable in this barren country to be thus wasted, and the principal fuel used by the people is short Tibetan furze, called *Dáma*, and dried dung of all kinds. The Elæagnus is an ornamental tree with a yellow flower, from which it derives its name of *Ser-shing*, or yellow tree. It is the Persian *Sanjit*. The tamarisk is abundant in the narrow glen of the Rulang-chu, or Puga rivulet, below the hot springs, where they attain fifteen and sixteen feet in height, the warmth of the water, 66°, being favourable to their growth.

The fruit-trees are the apple, the apricot, the walnut, the mulberry, and the vine.* The apricot is the only one found as high as Gya, 13,500 feet. The vine and apple make their first appearance at Bazgo and Sáspul, the walnut at Sáspul, and the mulberry at the monastery of Tamisgong. The apples, which are plentiful along the Indus, are of large size and good flavour. The apricots are large, but not so well flavoured as those of Balti. The grapes are much inferior to the splendid fruit of

* The vine is called *Gun*, *rGun*.

563 583 851 114 dissolved, and in such cases, the children have all the ordinary advantages of a home, and grow up very decent members of society. The same remark applies to ArGHóns of other than the first generation. In other words, if ArGHóns are scoundrels, it is owing to the unfortunate circumstances under which they grew up, and not to any inherent defect in the breed.

A good ArGHón is the best man in Ladák; he has more intelligence, more courage, and more enterprise than the Ladak Buddhist, and so far as I know he is not a whit less trustworthy.

181 105 [473] The ordinary Ladák Buddhists are as nice a race as one could find anywhere, they are a cheery, simple, honest, easy going people, but they must ever remain a subject race, for they are not clever, and they are cowardly and unambitious. They all have land, and their one desire is to be left in peace to live on the land. They have no desire to be rich, and so long as they have enough to live upon, they strongly object to earning money by the sweat of their brow. They do a little trade with the Tibetans of Lhása territory, but they have no commercial instincts or aptitude. The ArGHóns on the other hand, as a rule, have no land, and they therefore have to keep their wits about them to earn their bread. They are far better traders than the Buddhists, they are quite ready to work for money, and they generally speak two languages viz., Tibetan and Turki or Tibetan and Kashmiri.

[434] 563 473 443

In physique they are certainly equal to the Buddhists, and in personal appearance, more particularly the women, they are far superior to them.

137 114 762 [58] HARE--reeong or reebong. Ladákis consider that hares are of the same "genus" as asses. Cunningham (p. 203) says that Tibetans do not eat hares, in Ladák this is not so.

562 563 HAREM--áney (or bómo) duksa khángpa. The Ladáki women are not confined in harems, nor do they wear veils when in the streets. The ArGHons (see "Half caste") are beginning to think it a mark of respectability to shut up their women.

241 HARROW--sarhniom (the Indian harrow, merely a log of wood, which when drawn by oxen over the fields, breaks up the clods and covers the newly sown seed with earth. It is not used in Ladák), vat (the Ladák hand harrow, like a rake, only with a smooth surface instead of teeth).

000 HAUNTED--drey-zhukskhan or gongpó-zhukskhan. The former

they believe in inoculation. They take the scales of the sores of a small-pox patient, dry them, reduce them to powder, and then mix a little of the powder with water, and give it to the person who is to be inoculated, to drink. Sometimes an incision is made in the skin and a small quantity of this powder is inserted. 751

[73]INTERMARRIAGE--It is usual for persons to marry into their own caste, but not necessarily into their own sub-division thereof. A man, however, may marry into the caste below his own, a woman must marry either into her own caste or into the caste above it. For forbidden degrees of relationship, see "Incest." 582 564

[75]JELLY--jellee (European pudding) gólum (an unstrained jelly made by Ladákis, out of sheep's head or feet, and given to sick persons, as being nourishing). 758

JUGGLER--hunar ltankhan. In Ladák jugglers form a distinct sub-division of one of the lowest "castes." 564 463

[76]KALON--kálón. Hereditary Prime Minister, but see "Kolon" and "Minister." 645

KARDAR--kárdár. The Ladák Wazárat is divided into 13 Kárdár-ships; the Kárdár's duty is to collect revenue, report and investigate criminal cases, keep the "beygár" or "forced labour" rosters, and generally to superintend local affairs. In return, his own share of "beygár" is remitted, and he gets 2 per cent. of all revenue collected in cash. On the share of the revenue paid in kind, he gets nothing. 631 647

[77]KOLON--kálón. The title of the family to which, in the old days, the Prime Minister always belonged, also the title of the Prime Minister himself. But see "Minister". 645

KUT--roosta (the root of the "Aucklandia costus"). Kut grows in the Sind Valley and other parts of Kashmir. It has a violet-like scent, and is used for incense. Its collection and sale is a monopoly of the Kashmir Durbar. 137 438 656

LABOURER--hlápa (general), khurpa (load carrier), thralpa or 000

It was extremely
seldom that one could fell a tree in this wilderness, which is poor in 137.
rain and in trees. Aside from willows, poplars, apricot and nut trees and a few apple and almond trees at the irrigated bottom of the valley, only a number of tamarisks and hawthorn trees grew at the edge of the brook in the side-valley, and up above in far-removed highland valleys grew a few juniper trees (Juniperus excelsa); on the slopes of the mountains and on the plateaus there was neither tree nor shrub to be seen for miles around, only here and there bushes of burtse, a woody, strongly smelling species of erotia, gorse (caragana versicolor), and similar woody shrubs.

Over there, beyond the Indus, stood a group of poplars, it is 776
true, in the middle of a steep and barren mountain slope, as well as wild currant bushes and tamarisks at a well. But nobody dared to cut down wood there. There lived a terrible Lu by the side of the well who guarded the water and the bushes. The wife of Konchog Trashi, the old teller of legends and fairytales, had once cut off a few dried [753]
branches from the trees and had taken them home /34/. The following year she came down with leprosy, the Lu-disease (klu-nad) as the Tibetan calls it, which the angered nymph had conjured upon her. She died a horrible death. "That's what she gets for her forwardness," the lamas had declared. Drogpa Namgyal was thus also warned very severely both by parents and grandmother never to get wood from there or even as much as to go in the neighborhood of the well; likewise he was not to cut any wood from the large, beautiful juniper trees in the nearby Skyinling valley, for those trees were Lhashing (lha-śiṅ, "gods' trees"), inhabited by mountain gods, whom it would be dangerous to provoke since it might cost the offender his life.

It was a laborious task to extract with the small pointed hoe 482
the burtse shrubs with their woody root stem and then to tie them together with the strong string made of goat or yak hair into a proper carrying burden. In this way the boy learned early to carry a considerable load on his back and to bring it into the valley along the narrow, poor mountain pathways. Sometimes, when it was necessary to collect a larger quantity of fuel, a few donkeys were taken along into the mountains to help with the carrying.

Often his mother, and even more frequently his grandmother, 372
sent the boy to the nearby caravan route in order to collect cow and 415
horse dung in a basket. This dung was then spread out on the flat roof of the house for drying and was then in turn used for fuel. Drogpa Namgyal once heard his grandmother give his mother a severe scolding

does not starve and that the little lamb does not die of hunger either. 583
You gentlemen! Bring the rope over here please!" 584

Norpel and Ishe Lhundrub, the two uncles of the girl, then got up and put up a rope right across the entire living room fastening its ends to the main beams of the ceiling. Then they went with mother Deskyid into an adjoining provision room and soon came back laden with clothes, women's ornaments and all kinds of household utensils. The clothes were partly made of Tibetan cloth colored wine red, and [291] partly of blue, green, brown or black European cloth, satin or muslin; there also shone forth the sleeveless fur covering decorated with red and green cloth, colored sashes each from two to three meters long, the shirts with the very long sleeves, trousers whose legs resembled pipes of about one and one-half meter's length, and--the prize possession and the pride of the bride--the perag, the head ornament with many [301] turquoises and many little silver and guilded amulet containers and capsules covered with colored semi-precious stones. All these things were hung up on the rope and especially the perag was hung in such a way that everyone could see and admire it. The rest of the rich ornaments, the necklace of corals and silver decoration, the earrings, the shoulder pendants and the like, the mother displayed on two little tables placed in readiness for the purpose. Next to this were placed in [291] an orderly row the shoes, delicate Indian pointed shoes, next to more clumsy Tibetan shoes made of colored cloth. Furthermore they put [415] down there the handleless copper cooking pots which are tin-plated on the inside, the copper dishes and plates, the wooden cylinder with the mallet in it for the mixing of butter tea, and the tea strainer woven out of hard, wire-like grass (45), as well as all the other household

45. The botanical name of the grass is Kobresia tibetica. [137]

and kitchen utensils. That is the bride's ragt'ag (46), the bride's rope

46. Along with the form rag-t'ag there also exists the form ras-t'ag which is apparently connected with "ras," meaning "linen cloth," "garment." Often the bride's rope is simply called "t'ag-pa" (meaning "rope") for short.

or the trousseau rope which is here put on display in order to be able to measure the purchasing price of the bride, the "price of the mother milk," in accordance with it. The two uncles of the bride very

6: Gazetteer G-5 (ca. 1840-1883) 1883-4 AJ4 W. Tibetans AJ4





lakes in this country, two on the Bhága and one on the Chandra near the Pálamo pass. This last is much the largest, being three quarters of a mile or more long. The water in all is fresh and very clear. In this vast region of alps and ice, it will be readily understood that habitable spots and cultivated fields are few and far between. They are found only in the lower valleys of the Chandra and Bhága, the remainder of the canton being desolate and completely uninhabited, save when, for a few weeks in summer, the Kúlu shepherds bring up their flocks for pasturage. The inhabited part of the Chandra valley is called by Láhaulis Rangloi, that of the Bhága, Gárá, and that of the Chandra-Bhága, Pattan.

The scenery in Láhaul is almost oppressive from its grandeur, and it is wild and desolate, for the villages and cultivated lands are mere specks on these vast mountain slopes. But there is something pretty and smiling about the near view of the villages, especially in Pattan and the lower part of Gárá. There is nothing striking in the flat-roofed two-storeyed houses, which are massed together in one or two blocks, so as to give in-door communication in winter; but the clumps of pollard willows standing in plots of smooth green turf, and the terraced fields neatly kept and waving with thick crops of wheat or barley, are pleasant to look at. On the banks of the fields and under the small canals are the *dang* or hay fields, in which the grass grows luxuriantly, mixed with bright flowers as in an English meadow, and here and there in bush or hedge are wild roses, bright crimson or bright yellow, and wild currant or gooseberry trees. Wherever water is brought, all this verdure springs up, but without irrigation the ground is so nearly barren that not only no crop will grow, but there is so little grass that at a short distance you would think there was no green thing on it. This description, however, does not apply to the upper villages in Gárá and the greater part of Rangloi; here there are few or no trees or bushes round the villages which have a very bleak look, but the grass grows thick and green on the hills without irrigation. In a few places the slopes immediately above the villages are thinly covered with *kail* (*Pinus excelsa*) or pencil cedar (*Juniper excelsa*) and higher up, here and there, there are patches of birch wood. Near the villages on the road-sides are long dykes or walls of stone from four to five feet high and a yard or more broad, on the top of which are placed slabs or round stones, on which the *ommái pádmę hún* and other Buddhist texts or *mantras* are inscribed. *Chodhten* or *Dangten*, which are curiously-shaped conical-buildings erected in honour of some saint or incarnation or as the mausoleum or relic temple of some *lámá* or great man, are found in the same situations. Above the villages, sometimes on the hillside and often under the shade or on the very face of a precipice, are seen the *gonpas* or monasteries of the *lámás* with flags flying and whitewashed walls. The average elevation of the cultivated and inhabited portion of Láhaul is estimated by General Cunningham at over 11,000 feet. Mr. Lyall, on the other hand, puts it at something less than 10,000. The highest villages are in the lower part of the valley of the Bhága, where one, named Kangser, is mentioned by Mr. Lyall at an elevation

6: Gazetteer G-S (ca. 1840-1883) 1883-4 AJ4 W. Tibetans AJ4
Kangra District.





is the great want in Spiti, yet the river itself and its tributaries, fed from immense glaciers, and at their fullest in the hottest weather, supply none; their beds are too deep, and their sides are too steep and friable, so that the *zamíndár's* only resource is in the water of small streamlets which flow from small ravines in the face of the mountains which shut in the main valley. Some of these dry up altogether, and others run very low towards the end of the summer. The main valley looks as if it had consisted originally of a level plain from a mile to two miles wide, but the greater part of this plain has been carried away by the river which now runs in rapid shallow streams scattered over a very broad bed shut in by steep cliffs; the remains of the plain form plateaus above the cliffs, and it is on these plateaus that the villages stand. From the plateaus the mountains rise up in long steep smooth slopes of *débris*, till near the top, rocks rise out of the slope in the shape of walls or jagged ridges, and end the view. The plateaus and slopes of *débris* look brown and bare; and the rocks are of all colours, shades of red and yellow predominating. There are no trees, and to get sight of green grass you must go up into the high lands on the left bank already mentioned. All available water seems to be carefully reserved for the fields, and there are no *dang* or irrigated hay-fields as in Láhaul. In place of hay a kind of thistle and a vetch, which grow wild in the valleys, are cut and stored for winter fodder. At the head of the valley there is a kind of bush willow which grows in the bed of the river, and lower down a prickly shrub (*Hippophæ salicifolia*) is common in the same position, but they are neither big enough nor green enough to alter the prevailing barren tints of the scenery. At the lower end of the valley a few *shokpa* (*Juniperus excelsa*) and poplar and willow trees are to be seen. These, with the exception of a kind of dwarf birch which is found in one or two places, furze, broom, wild rose, and currant bushes, comprise all the trees and shrubs of the country. The Pin valley is more absolutely bare of tree or bush than any other part of Spiti, but there is more grass than in the main valley, which is probably due to a greater rainfall. In spite of the utter want of verdure, there is a great deal of beauty in the scenery; the hills near at hand have very quaint and picturesque outlines, and their scarped sides show a strange variety of strata, each with a different tint of colour; above them a glimpse is caught of some snowy peak standing back against a very blue sky; in front are the bold sweeps of the river and the cliffs, supporting the plateaus, upon which, at long distances, the white houses and green fields of the villages are conspicuous. All this, seen through an excessively clear and pure atmosphere, makes as pretty a picture as is possible in the absence of verdure and blue water. The only blue water in Spiti is contained in one or two lakes, to see which requires a long climb out of the valley; there is a small one above Dankar, and another of considerable size at the foot of the Manirang pass. The water in the rivers is always thick and yellow, an unusual thing in the Himalayas, and due of course to the

6: Gazetteer G-5 (ca. 1840-1883) 1883-4 AJ4 W. Tibetans AJ4



133 Chapter I. The District.

formation of sandstone and lime before alluded to. The valley is similarly described by Mr. Theobald :—

Villages and scenery in Spiti.

"All along the course of the Spiti river are seen old river terraces or deposits of shingle and sand, reaching to a height of some 400 feet above the present river level. Behind these regular deposits, rise almost mountainous accumulations of *débris*, precipitated by frost from the abruptly scarped limestone cliffs bounding the valley. The height of this gravelly mass mainly depends on the height of the cliff at whose base it has accumulated, but not uncommonly reaches to 1,500 or 2,000 feet above the river." In the depth of the valley the soft soil of the cliffs which shut in the river-bed has been hollowed out by the action of time and water into fantastic shapes. "Out of a soil of clay and bold rock," writes Captain Harcourt, "uprise rough monument-like masses that are not a little peculiar in appearance, for they are crenelated and honey-combed all over with deep holes and apertures as if scooped out by art, supporting on their summits great boulders of stone which in all probability have kept the masses underneath from wearing altogether away."

132 Climate of Spiti.

[133]

The seasons in Spiti correspond generally with those of Láhaul; though the spring is somewhat later, and the winter of longer duration. The mean elevation of the villages is considerably higher than in Láhaul, averaging 12,000 feet or over, and rising as high as 14,000. Snow begins to fall in December, and remains on the ground until the end of April, but seldom exceeds a depth of 2½ feet, which is less than in Láhaul. The cold during the winter is very severe and is aggravated by violent and piercing winds. Slight showers of rain fall in July and August, though the district is beyond the regular influence of the monsoon; severe frosts set in before the close of September, in which month Mr. Lyall records that a stream of water he had observed at night running down a slope from a broken canal, was turned into solid ice by the morning. "The climate," he adds, "is a remarkably healthy one; excepting a few simple complaints, such as colic or rheumatism; sickness appears to be almost unknown." He saw in his sojourn in the valley no cases of goitre or critinism, and remarks that "the muscular development of both men and women looks large and hard compared with that of the people on the south side of the Himalayas." In the summer Captain Harcourt records that the days are exceptionally hot. The mean temperature of the Upper Spiti valley is given in Messrs. Schlagintweit's tables as follows :—

[164]

[148]

| | | | | | |
|---|---|---|---|---|---|
| January | ... | ... | ... | ... | 17° |
| April | ... | ... | ... | ... | 35° |
| July | ... | ... | ... | ... | 60° |
| Autumn | ... | ... | ... | ... | 39° |
| Year | ... | ... | ... | ... | 39·4° |

137 Flora.

[13]

For an account of the flora and vegetable productions of Láhaul, reference should be made to Vol. X of the Linnean Society's Journal, which contains an excellent paper upon the subject by Dr. J. E. T. Aitchison, a Civil Surgeon on the Punjáb establishment, and late British Joint-Commissioner at Leh. The hills of Spiti are, as has been already stated, bare and devoid of forest. At the head of the valley there is a kind of bush willow which grows in the

6: Gazetteer G-5 (ca. 1840-1883) 1883-4 AJ4 W. Tibetans AJ4





bed of the rivers, and lower down a prickly shrub (*Hippofa salicifolia*) is common in the same position. At the lower end of the valley there is a sprinkling of pencil cedar (*Juniperus excelsa*—locally *shokpa*), poplar and willow trees, which, with the addition of a kind of dwarf birch (of which occasional specimens occur), furze, broom, wild rose and currant bushes, complete the catalogue of trees and bushes in the country. The Pín valley is more absolutely devoid of forest growth than any other part of Spiti; but, owing probably to a more liberal rainfall, is comparatively rich in grass.

der of the mountain turned and waved. He was the stouthearted one who carried the dreadful load over Rothang.

Tashi (which means "good luck") was our new employee. He was short and stocky, middle-aged, pleasant, quiet, efficient. He had with him his son, about fourteen years of age. They had ten horses and were going as far as Kyelang, three stages distant. I agreed to pay eight rupees a day for each riding horse, five rupees a day for each pack horse. The horses were the small Punjab type, not even ten hands high, with small feet and fairly sturdy shoulders. We rode two; the rest carried the baggage. Tashi and his son walked.

By the time the horses were packed, I knew that I could go with Tashi in confidence to the end of the earth. He was one of those quiet, steady, competent men who show the mark of the mountains. His horses were also good. They were fast-traveling animals. The riding ponies had no bridles, only halters. The saddles, which had no stirrups, were crude wooden pack saddles, piled with sacks and blankets. Though the saddles were not painful, it was more comfortable to walk, as I did most of the way to Gundala.

The Chandra canyon, between a mile and a half mile wide, is deep and twisting, with the mountain walls going up on both sides at precipitous angles. There are here and there a few pine trees along the river and fir trees on the benches. These high benches, the day we passed, were filled with sheep and goats, white-fleeced animals that from the distance looked like great patches of flowers such as one sees in the Cascades of Washington when the squaw grass is in bloom. Now and then a bench close to the river had been planted in potatoes, millet, wheat, and a tall flowering plant that I first thought was a sunflower, called the *kuth*, which is grown for medicine. There were scatterings of yarrow, yellow violets, snapdragons, and delicate pinks along the trail; and now and then I saw whole acres of cowherbs in bloom —the tallest, most lush cowherbs I have ever seen.

12: Douglas T-3 (1951)1953 AJ4 W. Tibetans AJ4



361 shoulder of mountain. Kyelang has a bazaar of a dozen or so
161 shops, a grade school, a dispensary and hospital, large administration houses, a cold spring that comes booming out of a pipe, and
[132] narrow cobblestone streets where pack trains can barely pass. It is a delightful place in summer months, seldom getting warmer than 73 degrees.

• 137 The streets of Kyelang are lined with aspen and willow. The willow is the common white willow of the Old World, the one that is naturalized in parts of the eastern United States, the one that is the standard wood in England for making cricket bats, artificial limbs, and the charcoal used in the manufacture of black gunpowder. The white willows at Kyelang are old and gnarled, two to four feet thick. They have been topped for years and used for wood and so are squat and stunted. New plantings of willow shoots are wrapped in cloth or twigs for protection against the goats. On the slopes above Kyelang are scatterings of juniper (pencil cedar), reminiscent of the juniper one finds in the Steens Mountain country of southern Oregon. And here and there are a few of the willow leaf sea buckthorn—a willow-like tree of the oleaster family (*Hippophae salicifolia*). At both ends of the
[133] Bhaga canyon, as seen from Kyelang, are huge snow-capped peaks with glaciers that, during a summer day, reflect in changeable moods most of the colors of the spectrum. Kyelang, green and lush, lies like an oasis—an oasis in granite, snow, and ice.

Kyelang, the capital city of Lahul, was in charge of a Tehsildar,[1] a young, soft-spoken, pleasant Sikh by the name of Mahindar Singh Randhawa. I met him as I arrived at Kyelang in the rain; and he assured me as I dismounted my pony in front of his office that the weather was "most unusual."

197 Lahul, though a part of India, is a foreign land. The most common language is Tibetan, and yet it is somewhat different because of the Lahuli dialect. The greetings along the trail out of Manali were in Hindustani—"*Ram, ram*" or "*Namaste.*" In Lahul they became Tibetan—"*Ju Ju*" or "*Ju Le.*"

64

[1] [Headman--Assistant]

12: Douglas T-3 (1951)1953 AJ4 W. Tibetans AJ4



777 was plain that the clouds were lifting and that the storm was breaking up.

By the time the mule train was packed, we were in streaming sunshine and Toche Phirche was beginning to lose some of its sogginess through steam. There were black, ominous clouds on a high ridge to the north, the direction we were headed. Budh Ram pointed to them, misgivings written in his face. I grinned, pointed to my hat, and then to the clouds.

133 I was a good prophet. We climbed a thousand feet or so as we
137 left Toche Phirche and soon came into a vast basin (called Kiangcha), mostly flat, fifteen or twenty miles wide, and stretching ahead and behind as far as the eye could see. This basin was covered with scattered patches of the *dama* (*Caragana versicolor*), a low bush clinging to the ground like heather. It is used as fuel in this region and has the interesting feature of burning even though green. A moss called *burtse* (Eurotia) also grew here, a moss I had seen ever since we left Chakchu. It grew in clumps as big as a saucepan and was dried by the natives for use
[136] as fuel. We traveled the basin for several hours. There were ibex above us on the canyon walls to the west, feeding off and on, then stopping to watch us, but always keeping a thousand yards or more distant. The storm that had been making up to the north swung east and then south, leaving us in brilliant sunshine all the way.

777 I stopped to put some flowers in my plant press and before mounting my mule made the announcement that I was tired of wearing my glass helmet. "Does anyone want to wear it?" I asked.

Rahul spoke up, so I gave it to him. We moved on—Rahul, the glittering white helmet, and the dappled gray mule in the rear. In an hour we had climbed a slight rise in the broad basin and faced Pagmur Pass to the north and a host of granite peaks and ice fields to the northwest. A storm that was brewing among the peaks soon moved toward us. It came faster than a horse

12: Douglas T-3 (1951)1953 AJ4 W. Tibetans AJ4

# CHAPTER 9

## SHEEP ARE THE GOODS TRAINS

There is an old Tibetan saying that "sheep are the goods trains, ponies and mules the mail trains." It was above Jispa where the court had been held and not far below Baralacha Pass that I saw the first sheep train.

The trail north from Jispa follows the narrow, winding Bhaga canyon. After a few miles the juniper thins out, leaving hills that are mostly barren in August. Jispa, which lies at 10,500 feet, is dry and dusty; but there are basins in the towering canyon walls that are 16,000, 17,000, 18,000 feet high which show touches of light green. There are wild roses along the trail—white and blue. A host of tiny saxifrage grow in the rock fields. These delicate white flowers are hardy and widespread; yet I found an occasional dwarf mountain dandelion even higher than the saxifrage. The Bhaga canyon shows no other colors in August—no color other than the monotonous browns and grays of the slate and granite that dominate the ridges.

The trail skirts bleak cliffs that drop hundreds of feet to the

492 to rid it of the moisture collected from the storms it had been
439 through during its long journey.

Several mule trains had arrived from Manali carrying cereals, tobacco, cloth, pepper, ginger, and sugar. These products from the south were exchanged for those from the north.

[804] It is a rule of thumb that five sheep loads of salt are the equiva-
437 lent of four sheep loads of barley or corn. There were scales at Patseo—crude scales that looked like miniature teeter-totters. The wool and salt were weighed; the corn and barley were weighed. Then the exchanges were made. This day—August 4, 1951—wool was selling at Patseo for two and one half rupees (fifty cents) a pound. Some money changed hands. But the bulk of the trading was by barter.

The sloping bench above the river at Patseo was dotted with tents, made mostly from pieces of canvas or cloth stretched on poles to form a roof. The walls were the sacks of grain, tea, or salt the merchants had brought to the fair or had purchased. They were piled on three sides as windbreaks. Each tent had a fire of dung. Tea was being brewed in large copper kettles; and *chapattis*—the thin, unleavened bread of India—was being baked on convex copper plates.

49 One mule train started down the trail to Kyelang and Manali loaded with salt and wool. Another started toward Leh heavy with grain. And just before we left for Zing Zing Bar a sheep train that had been at Patseo for several days started its long return journey north. The sheep looked thin and gaunt, for they had been sheared. The little bags they carried on their backs were now filled with grain. A billy was up front, leading the way. And the rest of the sheep were spreading out, looking for nibbles they had missed on the way down.

133 Zing Zing Bar (14,000 feet) is a vast rock field on the Bhaga,
•137 spewed from draws that run four thousand feet or more up the mountainside. These rock slides are a mile or more wide, devoid

12: Douglas T-3 (1951)1953 AJ4 W. Tibetans AJ4



of all vegetation except red, yellow, and gray lichens and a few of the sturdy saxifrage.

At one time there had been a serai at Zing Zing Bar with rock walls and a galvanized iron roof stretched on steel rafters. But the weight of snow had crushed the serai, making it uninhabitable. I found a level spot in the vast rock field where I put my bedroll. And after inflating my air mattress and getting everything in condition for the night, I joined the muleteers.

They had piled some of our baggage in the form of an L to provide a windbreak, and they had a fire of mule dung going. They were making tea, a tea unlike anything we of the West know. It is called *gur gur cha*. The correct and proper way to make it is to brew the tea (which is kept in a bag) the day before, adding a pinch of soda and letting it simmer until it has a pinkish tinge. The next day put the brew in a churn, add salt and yak butter (*gie*), and mix thoroughly. Then heat the mixture until it is piping hot and serve.

Rup Singh omitted the first step. He had a tall, cylindrical, wooden churn in which, with the use of a plunger, he mixed water, salt, and yak butter. After the butter was dissolved he poured the contents of the churn into the teapot. When the tea had boiled, it was ladled out in cups. It sounds repulsive and sometimes is, when the yak butter is rancid. But Rup Singh's *gur gur cha* was good. A cold wind was sweeping down from Baralacha, chilling us. The *gur gur cha* seemed to have a special warmth. It was nourishing too. We sat in silence for perhaps a quarter hour sipping it.

Then the muleteers ate their supper. They had a sack of flour made from barley that is cut when slightly green, then baked and ground. This flour is carried in every caravan that travels Lahul, Ladakh, or Tibet. It is the mainstay of each meal along the trail. My muleteers ate it in the customary manner—they put a handful of it in a cup of *gur gur cha* and stirred it up until

000 train. There was one other exception, when we traveled from Pagmur to Leh with Nehru's horsemen.

133 About eight miles below Pagmur at a place called Zara we got
361 horses and yaks. Zara is a barren, rolling basin that lies at the confluence of three bleak valleys. There is no mark of habitation at Zara except a few tents. Zara is indeed only a rendezvous for the goatherds of Rupshu—a region as remote from civilization and even from caravans as any place in Central Asia, an area inhabited by migrating tribes who have and enforce their own law quite independently of the central government at Leh.

136 Rupshu has large, fat marmots (called wild dogs by the natives), who peer curiously at all travelers. They pop in and out of their holes, running awkwardly. Then they stand and whistle in
[825] a tantalizing manner. The natives believe the marmot has the soul
[757] of a man who is mischievous and malicious. The fat[1] is used externally for rheumatism.

Rupshu also has some geese and ducks, the burrhl or blue sheep, the big-horned *Ovis ammon*, a snow cock, and gazelles. Big brown wolves raid the flocks of the miserably poor people, called Rupshupa or Changpa, who roam its almost barren basins and ridges.

•137 This area has bunch grass, the mossy *burtse*, the low *dama* bush, and a small sage-colored bush that the Tibetans call *jyapshen*. But one takes a long step between clumps of grass. The mark of
735 overgrazing lies heavily on Rupshu. The mark of poverty is on
511 the people and their possessions, as well as on the land. Their
[291] brown pup-like tents are often in tatters. The Rupshupa go barefoot, wrapped in heavy brown coats that reach to their ankles. The black hair of men and women alike hangs in a tangled mass down their foreheads and necks. Their skin has ground in it the dust of hundreds of storms, and they carry the look of people who have not bathed for months on end.

000 We met the Rupshupa at Zara on a small piece of green meadow by a clear-water brook that comes down from the east.

[1 Of the marmot--Analyst]

000 it was there that we stopped for lunch. In this grove camel caravans were repacking for the trek downstream to Khargil. Farmers were gathered under the trees, gleaning news from the men of the caravans. Mule trains, carrying produce between the villages up and down the Indus in the manner of our locals, rested
132 in the shade. It was cool in the shade but blistering in the sun. Though this stretch of the Indus lay over eleven thousand feet high, the daytime temperature marched well over 100 degrees; and on some days it went into the 130's. The summer heat is so great and so sustained that it brings grain to maturity in two months' time.

487 The trail, after crossing the Indus, divides, one fork going south along the river's edge to Spitok, Khalatse, and Khargil, the other turning north to Leh, the Khardong Pass (18,380 feet), and Yarkand, an ancient trading center of Sinkiang. We took the right fork
• 137 and in four miles came to Leh. This approach to Leh is dreary and desolate. In early summer there are buttercups, columbine (called asses' sugar), and clematis in this area. Later come the vetches, lavender, bluebells, and cornflowers. There are great stands of iris, which is sometimes stacked and dried for winter fodder. These flowers bring color to the land. But by mid-August the gaiety is gone. The flush of light green from the tender spring grass has also passed. Now the slopes and nullas are dry and sear.

134 Monotonous browns and grays fill every stretch with desolation. Each view shows the end product of erosion. The ground has been endlessly pounded by the quick feet of goats and sheep; the protective covering of the earth has been eaten off or washed away; there is no topsoil left; every ravine tells the story of harsh runoffs of water; the fields and slopes are strewn with countless rocks, pitched up by the slow working of frost or exposed by the cutting wind that whines ceaselessly along the Indus. There is no shade, no touch of life, no bush, no scattered hummocks of the *dama* bush. There are distant snow-capped peaks to lift the heart; but there are only heat and dust and rubble underfoot.

13: Heber and Heber D-3 (1914-25) 1926 AJ4 W. Tibetans AJ4



beyond our limited human ken, can we not feel with the child of A. B. Paterson's poem :—

"When people die
They go to the country over the range,"

and say with this Australian poet :

"Ashes to ashes, and dust to dust :
Our views by a range are bounded too ;
But we know that God has this gift in store,
That when we come to the final change,
We shall meet with our loved ones gone before
To the beautiful country over the range."

Then, too, there is such a joyousness in the land, between the long stretches of bare desert of rock and barren hill, which have their own beauty, especially when in an autumn setting of a blue-green river and an azure sky. Wherever a green village snuggles into the brown-red hillside, a rippling stream is heard and a cooling breeze felt in the little plantations of trees, whilst the soft evening light makes the green corn look like plush, or contrasts its autumn gold with the yellow glory of the poplars all set against a background of white snow peaks and blue sky. Nor must we omit the fairy touch of spring, which turns each nestling hamlet into a fairy-land of apricot blossom, exquisite prelude to the return of the green after the long, bare winter. Surely this joyousness gives our people their merry look, their cheerful willingness, and the happiness that bursts into song over every kind of work.

Was there ever a more striking example of the desert blossoming as a rose than is seen on the road between Shimshe Kharbu and Kargil, where in June and July the bushes are aflame with red and pink glory of wild rose, sometimes single as our English rose, sometimes double and varying from light pink to the deepest crimson, fit reward to the traveller who climbs the steep ascent and dares the precipitous paths that precede the flowery outburst. In some parts of Ladak bushes of yellow roses are to be found, having leaves scented like our

13: Heber and Heber D-3 (1914-25) 1920 J4 W. Tibetans AJ4



137 English sweetbriar. Nestling in the crevices between the hard bare rocks and stones of the same march, the beautiful fragile-looking columbine rears its dainty white bells, and among the driest patches of stone, especially in the neighbourhood of Kalatse, flowers of the somewhat cyclamen-like caper rejoice the eye. One of the most beautiful pictures lingering in the memory of a journey from Srinagar to Leh in June is provided by the little village of Tashgam, two-thirds of the way from Dras to Shimshe Kharbu. Here at the further end of the village by the side of the Dras river is a little green plantation of trees, the usual halting place for tiffin ; near it a bubbling brook runs down to join the river, and scattered about in its course are beautiful bushes of tamarisk, waving their prolific feathery blossoms in the breeze in a setting of green fields with scattered poplars, and framed like most Ladaki pictures, by the softly-graded lights and shades of the near hills, between and behind which peep the greater white peaks lined against the deep blue of a cloudless sky. In the summer-time the village walls, formed loosely of stones set together with mud, give a foothold to all sorts of little feathery plants, one resembling a wild maidenhair with wee brown flowers ; but of ferns there seems to be only one species, which enjoys those parts of the wall over which the water flows to the next terrace in the process of irrigation. Ice plants, such as we conserve in pots and rockeries at home, with their pinky white flowers abound, and the walls are often overgrown with a wild clematis which has the quaintest little brown flowers, surely turning into little elves and gnomes when no human is at hand. The edges of the fields and watercourses are adorned with yellow members of the ranunculaceæ, vetches, purple representatives of the scrophulariaceæ, species of milkwort, wild parsley and mint, and even dandelions. Belladonna is plentiful to the verge of nuisance in our gardens, and lucerne crops up everywhere. Edelweiss grows in broad patches over the lawns of the Leh Residency,

13: Heber and Heber D-3 (1914-25) 1926 AJ4 W. Tibetans AJ4



but Nature's most wonderful show is reserved, like the peoples' little box gardens, for the roof of her world. On the Zogi Pass which is the same altitude (11,500 feet) as Leh, in the summer months one of the outstanding features is the profusion and luxuriance of the flowers. One visitor to Ladak, re-crossing the pass in autumn, counted seventy different kinds as she rode along on her pony. At the foot of the high Kardong Pass behind Leh, at an elevation of between 15,000 to 16,000 feet, many of the same varieties grow, but they need and amply repay a little search there, as they have not the grassy sward of the Zogi, but must seek shelter among the stones. Here on these heights, to mention a few only, are found yellow Iceland poppies, Michaelmas daisies, small deep-blue gentians, forget-me-nots, forming a carpet of blue on the Zogi stretches, but replaced by the deep-blue of the borage below the Kardong, deep purple orchids, primulas in all shades of magenta and purple, cow parsley, a kind of stinging nettle, asters, saxifrage, vetches, Canterbury bells, and on the Zogi the single anemone and the tall bunched Japanese variety, even the green foxglove and the coarse edelweiss.

The highest trees in the land are poplars and two or three kinds of willows. A little lower in a few restricted spots are pencil cedars, as at Hemis Shukpachan; these so-called "Shukpa" trees are holy, and their branches are made use of in religious rites. Donkey-loads are brought up to Leh a few weeks before Christmas for an annual religious festival, and the missionaries secure a load or two for making their own Christmas trees. The tree affording most grateful shade in Ladak, the Walnut, does not mature its fruit above Nurla, and apple-trees do not survive above the Basgo-Nyemo Valley, one march below Leh. Nor do apricots ripen much beyond stewing purposes in Leh, and our supplies are brought up from the lower villages. Wild currant bushes are sometimes [illegible] in the lower valleys. Away on the bare hills one would

13: Heber and Heber D-3 (1914-25) 1926 AJ4 W. Tibetans AJ4



137 hardly credit any green growth at all, yet even here all sorts of little herbs and flowering thistles grow, each showing marked adaptation to its very dry habitat. Most important of these is the pungent-smelling, low-growing, bushy herb called *Burtsa*, which in the wildest places, far from habitation and cultivation, serves as fuel for man and food for beast.

Even now we have forgotten one of the most typical and best-known flowers in Ladak, the little stunted blue and white iris that springs up all along the water courses, and is the first flower to gladden our winter-weary eyes. Like most species up here, of plants and animals and even men, it exhibits the dwarfed mountain habit, and would look insignificant beside its handsome counterpart in Kashmir.

136 As regards the fauna of the country, we can better describe it under transport and shikar, for under those two headings we meet with nearly all the species which occur, but we might here add a few words about the birds of the country.

In the summer of 1923, Mr. B. B. Osmaston, a keen ornithologist visited Ladak, and made a list of sixty-seven different species of birds that he found in this country. Let it be noted that for many of these, the Ladaki has his own Tibetan name, showing that he is not only an observer, but a lover of nature. We have our residents, and our summer and winter visitors. That the latter should find even Leh too warm in the summer is surprising. Let us begin with our residents. Of the crows and ravens, our friendly scavengers, to whom should be added the noisy magpies with their constant "cha, cha, cha, cha, cha, cha," we have already spoken, but we must not forget the chough with its red or yellow bill, who in the early spring builds his nest in the sandy cliff near Leh, while pigeons (Rock and Blue Hill) abound. Smaller birds on the whole, find the rigours of winter too severe, and many of them leave us, their places being taken by others, who descend from the higher regions. The sparrow we have always with us, and he is kept company by

13: Heber and Heber D-3 (1914-25) 1926 AJ4 W. Tibetans AJ4



the snow having now receded to the distant hills and left our path clear, and by about three p.m. reached Dras.

But we must not, in all fairness to the Zogi, leave it as though its presiding demons always held sway. In the three months of July, August and September, this dreaded road loses all its difficulties and is transformed into one of nature's most beautiful flower gardens. A visitor to Leh re-crossing it at the end of August describes it as follows : " The Zogi on our return journey was one vast flower garden and rockery, impossible in its wealth of beauty to describe. From my pony's back, I counted seventy different wild flowers crossing the Zogi La alone. There were carpets of edelweiss and blue gentian, mauve daisies, yellow ragwort, pink ' coralflower ' and rich purple pelargonium. The whole hillside in one part would be sky blue with a sheet of forget-me-nots, further beyond the rich verdure of the grass there would be a mass of pink or mauve where the flower grew in rich profusion."* After the bare hills of Ladak, the green slopes are extraordinarily verdant, and large flocks of sheep and goats are brought up here from the Plains in summer to pasture. We were particularly interested, one August, when stopping for the night at Machoi on our way down, to notice one of these enormous flocks pass near the rest-house in single file. One after another they came in unceasing procession, over one thousand of them, tall Kashmiri goats with their look of foolish fearfulness ludicrously mixed with the patriarchal solemnity lent by their tufted beards, all of them so expressive, and many with irrisistibly humorous resemblances to one's human acquaintances, sheep of all sorts, mothers bleating and young ones following: it seemed as if they would never end. Fortunately for us their shepherds had set up a little camp quite near us at the foot of the great glacier behind Machoi, and we were able to procure a little fresh goat's milk from them instead of resorting to tins. With the words and tune of the

* *Tales of Tirah and Lesser Tibet.* Mrs. Lilian Starr.

14: Asboe M-3 (no date) 1947 AJ4 W. Tibetans AJ4



of course to be manured, though in practice the peasant cultivates the virgin soil for two or three years before enriching it with manure.

Owing to the scarcity of wood, the dung of cattle is dried in the sun and used for fuel, so that manure for fields is at a high premium. Recourse has therefore to be made to human manure liberally mixed with earth. In many villages public latrines are constructed for the reception of this form of manure. Again, owing to the shortage of fodder, the Tibetans never lay down straw as bedding for their animals. To increase the quantity of manure they simply add layers of earth to the droppings of the cattle in the stables, and in spring they take it away in baskets or in sacks to their fields before ploughing. To supplement the poor supply of grass and straw for their sheep and goats, the farmers use the bark of willow trees by cutting the branches and letting these animals strip them. The willow is the most popular and beneficial tree in the country, for it provides both fuel for the home and fodder for the goats and the sheep. Reforestation of the willow, as also the poplar tree, requires little effort, for all that is necessary is to stick the saplings in the ground, preferably near a watercourse, and they immediately take root.

According to the dryness of the ground it is watered previously or subsequently to ploughing. The manure is carried in sacks loaded upon donkeys or in baskets carried by the women. It is then scattered over the field and ploughed into the furrows in which the seed is sown. Sometimes the seed is broadcast on the land and then ploughed in. The plant is allowed to grow to the height of five or six inches, when a light supply of water is applied at intervals of a few days until the crop is vigorous enough to tolerate a weightier supply of water conducted along the ingeniously constructed watercourses.

Many of these watercourses are two or three miles long, depending upon the distance to the source of the water supply. Their gradients, which are usually about three feet wide by one and a half feet deep, are cleverly contrived so as to prevent a great quantity of water from flowing at one spot and causing the earth banks to break. Where an almost perpendicular cliff or solid rock is encountered, the water is conducted along wood gutters hollowed out of pine trees, forming a gallery round the cliff or rocky abutments. To conserve the supply of water large or small dams are constructed, which are guarded by a party of men chosen by the village to control the supply to the fields immediately beneath it. The water supply is of such immense importance and so hard to come by that meticulous care is taken in rationing it out to the various farm holdings in the neighbourhood. Failing an adequate supply of water for irrigation purposes it is futile to attempt to plough land, for no reliance can be placed on natural rainfall, especially in Western Tibet. The village watercourses are kept in repair by the farmers whose fields receive water from them.

Ploughing is performed by a pair of oxen (dzos—a hybrid of the yak and the cow) driven by a ploughman without reins. They are guided with the utmost precision by the voice or by a willow wand. The plough is made entirely of willow wood except for the point, which is formed by a small piece of iron. The whole structure is simple, inexpensive, and

/Illustrations and Photographs./[1]

532 /(1)/ Number 1. Dance of the bride purchasers (Drawing by
585 a native artist in Ladakh).
292
535 The bride purchasers (five here instead of seven) can be identi-
534 fied by their tall, golden hats, which characterize them as "children
415 of the gods." The leader is holding an arrow with little flags in his hand. They dance by sliding a shawl like a snake across their shoulders. The music: Two oboe players, two drummers each with two kettledrums, and two tambourine beaters. The people clap their hands to the beat of the music. The family of the bride is inside the tent. Beer jugs made of clay and brass.

778 /(2)/ No. 2. Altars that have fallen into disrepair, dedicated
772 to the three realms of the world. They were probably painted blue, red, and white. In the Skinling Valley near Khalatse.

53/ No. 3. Rock drawings along the Indus River near Khalatse.
778
137 Buddhist stupas, between them a small, horned altar belonging to the pre-Buddhist religion. Twigs of the caper shrub.

778 /(3)/ No. 4. Rig-adzin-mgon-po of Gad-pa near Leh.

Three stupas of blue, white, and red color respectively. Continued existence of altars painted in the same manner and belonging to the old religion, within Buddhism.

133 /(4)/ No. 5. View of the Tibetan part of the upper Sutlej
778 Valley.

Rough altar of the pre-Buddhist religion. Drawing by Prince Waldemar of Prussia (1845).

772 /(5)/ No. 6. The holy mountain Purgyul in the upper Sutlej
778 Valley.

Like the Kailasas it belongs to the Tibetan Olympus. Up above live the gods and the redeemed human beings. Drawing by Prince Waldemar of Prussia (1845).

[1] [See pp. 103-117, Category 116--Analyst]

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772

Nr. 2.

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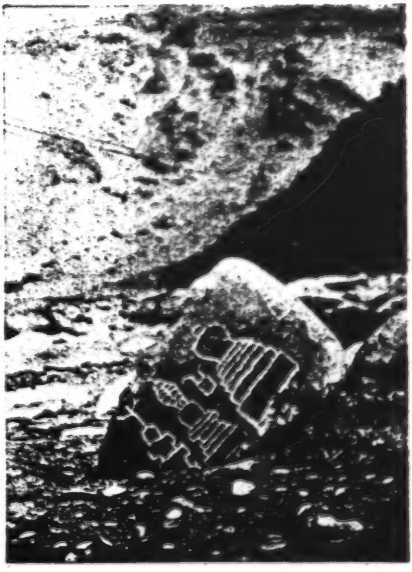
137

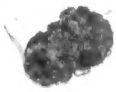


Nr. 3. Captions for above pictures on p. 100



[76]

24:Peter E-5 (1938)1963 AJ4 West Tibetans AJ4
Lahul





neighbouring Chamba, eventually to join up with the Indus basin in the plains. The valleys formed by the Chandra and the Bhaga constitute the inhabited part of Lahul, as does also the valley of their united Chandra-Bhaga course. Running towards the north, and springing also from the Baralacha pass, from a lake between the sources of the two other rivers, is the Yunan river, which joins up with the Tsarab Chu (*Ch'hu*, "water", "river" in Tibetan) in Spiti.

This hydrographic system of the Chandra-Bhaga or upper Chenab, which constitutes Lahul, is bordered to the north by Zangskar in Kashmir, to the east by Spiti, to the south by Kulu, Bara Bangahal and Barhmor, and to the west by Chamba-Lahul. All these non-Kashmiri areas were formerly part of the Punjab (Chamba was one of its princely states), but have now all been included in the new State of Himachal Pradesh.

The entire region is a high altitude one, the ranges north and south rising to a mean elevation of 18,000 feet; the lowest point is the Rothang pass in the mid-Himalayan range, and the highest peaks are well over 21,000 feet. The Chandra-Bhaga river, later to became the Chenab, does not flow below 9,000 feet at its exit from Lahul into Chamba. Kyelang is approximately at a height of 10,000 feet.

In consequence of the altitude the climate is a cold one. The mean annual temperature in the capital is only 43.3° F. with the coldest average temperature in February (23.° F.) and the highest in July-August (61.7° F.). The rainfall is scanty, reaching only six inches during the monsoon season in India from June to September. There is more rain in the winter months due to storms of high elevation; these bring the annual rainfall at Kyelang up to 23.08 inches for the whole year. For this reason agriculture has to make use of irrigation, but as there is plenty of perennial water from glaciers and from melting snow, this is rather an advantage to cultivation.

The scenery of Lahul is one of grandeur and it is impossible not to be impressed by the towering, snow-capped peaks, the bleak upper slopes of the mountains, the green pastures dotted with flocks of sheep in the summer, the poplar groves lower down fringing the flat, terraced fields of both food and cash crops, and the small villages of closely packed houses, flat-roofed and of an earthen colour, already very like the typical architecture of Tibet. This is the scene which meets the eye when the traveller is following the river bank in one of the valleys. When these are left behind, and the colder air starts blowing down from the heights, the vegetation becomes rare, and very soon ice and snow fields are reached, even in the summer, before crossing one of the high altitude passes.

24:Peter E-5 (1938)1963 AJ4 West Tibetans AJ4
Ladak



Trade routes through Ladak are important, and there are three principal roads: that to Central Asia, to Sinkiang in China, over the Karakorum Pass (18,550 ft.) from Leh towards the north; that to Tibet along the upper course of the Indus (eventually going on beyond the divide with the waters of the Brahmaputra towards Shigatse and Lhasa in U-Tsang); and that to Srinagar, capital of Kashmir, to the west, which used to be called the Indo-British Treaty Road (really a prolongation and continuation of the Central Asian road). The road from Kulu which I had followed is only a secondary one, and that over Rupchu is not worth considering at all as an artery for trade.

Scenically, Ladak resembles Tibet more than it does Lahul. In Rupchu, which, strictly speaking, is a part of Ladak, although an isolated one, I already noticed that I was no longer in country like the valleys of Lahul. I was on high plateau, with mountain ranges around me which did not seem particularly high but which in reality, because of the altitude at which I already found myself and from which I observed them, were among the highest anywhere. With the Indus valley, although still at an altitude of over 10,000 feet, I reached a milder environment. Here, there were trees and grass growing along the banks of the river and its affluents. Villages were visible, high up, above the long stretches of rocks and shingle brought down by rivers in spate, where glacier water runs on the surface before going on underground to link up with the main watercourse in the valley. *Chötens*, *mani* walls and large *gompas* were everywhere to be seen, as befits a Buddhist, Tibetan lamaist country.

2. *Population*

The population of Ladak at the time of my visit was estimated at 32,999. It was divided up into the conventional distinctions between Buddhists (29,410),[1] Mohammedans (3,470), Hindus and Sikhs (49) and Christians (70). The proportion of men to women (important among a people practising polyandry) was given to me as 14,760 men to 14,650 women for the Buddhists, as 1,730 men to 1,740 women for the Moslems, 36 to 13 for the Hindus and Sikhs (who rarely bring their women with them to these distant parts) and 37 to 33 for the Christians (nearly all converts of the Moravian Mission). As can be seen, the bulk of the population is made up of the Buddhist Ladakis of Tibetan extraction. They nearly all belong to the *Drug-pa* sect, although there are also rep-

[1] The low-caste Mōns, Garas and Bhedas, all artisans, were apparently included among the Buddhists, although their religion appears more akin to animism.

1: Drew G-3 (1862-1872) 1875 AV1 Kashmir W. Tibetans AV4



fallen masses. On the south side of the valley there is first a low ridge, and then above that tower great precipices of limestone rock. The Drās River enters the valley by a gorge, flows through it 25 feet below the level of the lowest alluvial terrace, and leaves by a similar narrow rock-passage.

The barrenness of the hill-sides is caused by the absence of moisture in the air and of any but the very slightest fall of rain. The range we passed through, and which in a former chapter was described in some detail, and shown to be generally a very lofty one, intercepts the moisture, whose source is the sea, obliges it to be precipitated on the outer side, and shelters this Ladākh country from the periodical rains, cutting off the supply of moisture to such an extent that the hill-sides are not only bare of trees, but of grass as well, free from forest and without herbage.

This is the character of all the country we have now to traverse, not only as far as Leh, but all that we have left to describe; so that when not specially mentioned, it must be remembered and taken for granted that the surface of the mountains is bare rock or loose stone.

And not only is the contrast great between the look of the green-clothed, forest-clad hill-sides of Kashmir and the arid, bare, and stony mountains of this Tibetan country, but the feel of the air too is very different; here in Ladākh is a clear light-blue sky and bright sun, with a brisk keen air; it is more a climate of extremes, in that the sun's rays are powerful, being less weakened in traversing the smaller thickness of atmosphere, so powerful as to heat quickly the rocky ground exposed to them, while, from its rarity, the air both receives less heat from the sun's rays, and in the evening allows of a quick radiation from the day-heated ground, so that cold nights suddenly succeed to days that have been felt to be hot by those exposed to the sun. As compared with this Ladākh country the air even of the higher parts of Kashmir is soft and mild.

The valley of the Drās River, though generally bearing out what has just been said as to climate, has not the Tibetan characteristics in the highest degree; the gap of the Pass allows some

1: Drew G-3 (1862-1872) 1875 AV1 Kashmir
W. Tib



are bare of trees; only at one or two places a few willows and poplars are to be seen.

The inhabitants are of two, or even it may be said three, distinct races; Matāyan has Kashmīrī who have been settled there for some generations; the hamlets of Drās are partly Dārd and partly Baltī; of these people I propose to defer the account till later.

We have spoken of Drās as one of the valleys of Ladākh. The bounds of Ladākh may be taken differently, according as we consider it politically or from any other point of view. Drās has not the same inhabitants nor the same religion as the central part of Ladākh, being in these respects more allied to Baltistān; but in the time of the old rulers Drās was part of the kingdom of Ladākh, and we too will reckon it as coming under that name, although latterly, for administrative purposes, it has been put with Baltistān.

### DRĀS TO KARGIL: THREE MARCHES.

The distance from Dras to Kargil is 40 miles; it makes two good marches and a short one. The road continues down the same valley, over stony ground, along the foot of great rocky mountains. Few villages are passed, and even those one goes near are not always visible from the path, for some are situated hundreds of feet above, on plateaus, the remains of denuded alluvial fans.

I have used this word "fan" before, and I shall in the future so often have to repeat it, applying it to a certain form of alluvial deposit, that it will be well here to explain the exact meaning attached to it.

When a side-stream debouches from a narrow gorge into a wide valley it is apt to deposit the material it carries down (washed from the mountains behind) in a fan-like form at the mouth of the ravine. This fan is part of a low cone, having its apex at the point of debou ment; the slope of it, which may be a few degrees, is very regular along each radius; the spread of it may vary from a few hundred yards to a few miles; the thickness of the

1: Drew G-3 (1862-1872) 1875 AV1 Kashmir
W. Tibetans AV4



deposit, the height of the apex above the plain or the main-valley bottom, is often many hundred feet. 133x

The fans frequently have become denuded, that is to say, cut up; their remains are sloping plateaus (with a slight curvature of surface) attached to the hill-sides in front of the ravines; these plateaus are commonly divided into halves by a gulley, through which the side-stream now flows at a low level, and they may end in a cliff towards the main river. The importance of these fans (whether they be whole or denuded ones) with respect to the habitation of the country consists in this, that it is chiefly, though not universally, upon them that cultivated ground occurs, the water of the side-streams being led over them for irrigation.*

To return to our route. Below Tashgām we come into a granite country; the mountains rise on both sides to a great height; not always are they seen thus lofty from the valley, but from any vantage ground above we look on to serrated ridges of 17,000 and 18,000 feet, the whole vertical height from that level down to the river, which is at little more than 9000, being of bare, irregular, broken cliffs and their débris. The sketch on the next page shows a view up a side-valley that penetrates into the mountain mass to one of the lofty ridges; its whole sides are naked, but a narrow strip of watered and cultivated ground lies in the bottom. [311]

The mountains, though at the first glance they show no trace of herbage, yet do bear a little; this is sought out by the small herds of goats that are driven to the more favourable places. Along part of this road two or three kinds of bush occurred pretty plentifully; one is the pencil cedar (*Juniperus excelsa*), which sometimes grows low and sometimes taller and tree-like; another is a bush called by the people "umbū" (a *Myricaria*); then there were currant bushes and numbers of red-rose trees, each tree being magnificently furnished with flowers, this was in the middle of June; all these were on the lower slopes among dry stones, flourishing where no grass would grow. 137

The Drās River goes on north-north-westward to join the Indus; 133x

* For details about the formation and denudation of fans in Ladākh I must again refer to the paper before mentioned, in the Quarterly Journal Geological Society, XXIX. 8

1: Drew G-3 (1862-1872) 1875 AV1 Kashmir
W. Tibetans A/4



inner high one. This plain is interrupted by cross valleys that, originating in the higher range, pass through the lower one down to the Indus; the plain thus becomes divided up into wide necks of land. In the first cross valley were several villages, one of them, Timisgām, ending the first stage from Khalsí.

The next day's journey began by the route leading us up a branch of that valley, past some patches of cultivated ground, supporting each its own hamlet, into a narrow dry gulley between rounded hill-surfaces, up which we rose until we came out upon another such neck as we were on the day before. Again there crosses at right angles to the road a ravine which we have to go down into and up again by a zigzag path that gives us several hundred feet of fall and rise. Then a gradual descent brings us to Himis Shukpā, a noted place. This place is named after a grove of a hundred or two large shukpā, or pencil-cedar, trees which there grow about a stony mound. The girth of several of these trees is six or seven feet, and some that have irregular trunks measure 10 feet and more; they taper quickly upwards, reaching to a height of about 40 feet; it is a holy grove protected by the gods; disease and misfortune are said to overtake those who commit sacrilege against it. At Himis Shukpā are remains of a fort or tower, which was built by the Sokpos who invaded Ladākh towards the end of the seventeenth century; I was told that they built such towers in many places, and that this was the most westerly of them; its walls are of a kind of gravel or concrete moulded.

From Himis Shukpā we go up over another neck of gravelly ground, and down to another ravine; the waters of this support the village called Yangthang, or "New Plain." This was settled five-and-twenty years ago by a Lāmā, who, by his wisdom and good management, got the main watercourse made, and, having established cultivation, fixed a monastery in the valley, in which there are now seventy Lāmās. The land, which, by grant, is free of Government dues, is cultivated by labourers who receive their food and clothing from the monastery. Two more plateaus, separated by a ravine, making five in this march, had to be crossed before Tarūtse, which we made the halting-place, was reached.

1: Drew G-3 (1862-1872) 1875 AV1 Kashmir
W. Tibetans A14



alluvial flats of the two rivers and the lofty mountains bounding them, with ravines, seldom habitable, that lead down from the heart of those mountains.*

At the junction of the rivers the valley of the Shāyok is some four miles wide; that of the Nubrā River is from two to three. The flat is in part sandy and shingly, in part occupied by jungle-patches of a low growth of tamarisk and myricaria, or umbū. The line at the edge of the plain is sharply drawn; the mountains rise from it suddenly in rocky masses, and they rise to a great height. Sometimes one sees only the ends of spurs, but even these may tower above one with 7000 or 8000 feet of bare rock; sometimes the eye reaches to lofty yet massive peaks, may be rocky, may be snow-capped, of much greater height, with great spurs and buttresses coming forward from beneath them. The stupendous size and the suddenness of the mountains give a character of grandeur to the scenery of this district.

On looking at the two valleys which make the habitable part of it I find a cheerfulness in the general aspect of Nubrā beyond that of the rest of Ladākh. This perhaps may be put down to the fact of the valley being so open that the eye reaches from village to village, and is able at the same time to overlook several green expanses of low jungle and of pasture. But it must not be thought that the cultivation bears any large proportion to the whole area. The villages occur each at the mouth of a ravine on the undenuded fan that projects from it; still it is only a small part of the surface of the fan that is tilled; much of the ground is impracticable for the plough on account of the masses of rock that have been strewn over the surface by the stream-floods. The space occupied by the village is green and pretty. Groups of fruit-trees and many poplars and willows

* The following names are given to different parts of Nubrā: *Gyen* is that part of the Shāyok Valley which lies above the junction of the Shāyok and Nubrā rivers so far as habitation extends. *Shāmā* is the part of the Shāyok Valley from the junction downward to the boundary of Baltistān. *Tsurkā* is the valley of the Nubrā River below Panimik, on the right bank. *Farkā* is the valley of the Nubrā River below Panimik, on the left bank. *Yarmā* is the valley of the Nubrā River above Panimik.

1: Drew G-3 (1862-1872) 1875 AV1 Kashmir
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361 Now after passing over several miles of these stony tracts, we come to where there are two or three small villages, which are the highest in the Indus Valley. This bit of the valley is properly out of Rupshu, still it is traversed by the Chāmpās in going from one part of their district to another. The villages are three. On the left bank is Nidar, in a ravine that comes down from the south; it has three houses only. On the right bank are Nimū, of twelve [241] houses, and Mad, of ten. Nimū is about 14,000 feet above the sea; it shows a tract of bright green at the edge of a great stony [137] expanse; naked barley and peas are sown here, but only the former ripens. Of trees there are a few large willows of great age. I have two or three times noticed that in the villages near the upper limit of trees, where few grow, there are some of more than usual size; this probably is from more respect being paid to, more care taken of them; there is also a newly-made plantation of [132] willows. At Nimū little snow falls, and what comes does not stay long on the plain; in winter the cattle and the flocks graze on the [101] plain by the river, but are brought under cover at night. The people of Nimū are not Chāmpās, but are nearer the Ladākhīs [221] both in look and language; they are, however, to some extent nomadic, since some of them take their flocks to other pastures in winter and live in tents while tending them. The village of Mad is in the next ravine to the east.

133 Leaving these last villages we follow up the valley of the Indus. It has widened to a plain, some four miles across, sandy at the outer portions, but covered with pasture about where the river flows through it. There are some small isolated rocky hills projecting up in the plain. This extends to where the river makes a sudden bend to the north-east.

Here we must pause to look more widely at the physical geography of the neighbourhood.

Cunningham, in his book on Ladākh, speaks of the "Kailas Range" as extending in one unbroken chain from the source of the Indus to the junction of the Shāyok, the name being taken from a peak on it near Mānsarāwar Lake (which is far to the south-east of the country we are dealing with), and he calls the great ridge behind Leh, between the Indus and the Shāyok, by

1: Drew G-3 (1862-1872) 1875 AV1 Kashmir
W. Tibetans AJ4



133X themselves, by their currents and their shore-action, had accumulated deposits along the line of the Lokzhung Mountains, which, on their retreating, became bars separating the two watery tracts, and have since become the watershed between the two enclosed drainage-areas.

136 There is another subject—the extent to which this region can
137 support animal or vegetable life—about which the little I have to say may be worth telling, since the place is so seldom visited. In the description hitherto little has been spoken of but earth and stones and rocks; but in this I have been guilty of hardly any omission, so few are the traces of either animal or vegetable life. Vegetation exists but here and there; generally every 10 or 15 miles is to be found some *burtse*, or Eurotia, the plant that serves for fuel, though at one halting-place moss is obtained in its stead, and at another neither *burtse* nor moss can be got. Pasture is still rarer; on leaving the last halting-place in the Chonglung branch of the Chāngchenmo Valley we had to pass over 60 or 70 miles before reaching any grass; the first find was at Lokzhung, a halting-place in the middle of the mountains of the same name. On the Kuenlun Plains grass is equally scarce, and it is only when one gets well into the Eastern Kārakāsh Valley that this cause of difficulty in keeping one's baggage animals alive dis-
136 appears. Of wild animals one would think from the foot-prints that great numbers must live in the plains and the surrounding mountains; but one sees few, and on reflection it appears that the many foot-prints are the work of a comparatively small number of individuals, for in this country a mark made may stay unobliterated for years. I saw Kyang, the Wild Ass, but only singly, at Thaldat, which is a watering-place of his; a track had been made straight to it for two miles, beaten and cleared of stones by continual passage. Hare also are now and then to be seen, and foot-prints of Antelope were observed at various places on the plains. Beyond, on the Eastern Kārakāsh, Kyang, and Antelope, and Hare were more plentiful. A beast I had not before seen, was the wild yāk; him I met among the Lokzhung

3: Imperial Gazetteer G-3 (1889-95) 1909 AV1 Kashmir AV1
W. Tibetans AJ4



Srīvara the lake is called Dala. The cultivation on the lake is peculiar and interesting. Kr 631

**Ladākh.**—The most westerly province of the high mountainous land spoken of as Tibet is called Ladākh or Ladāg. It is now politically a division of the Kashmīr State, lying between the Himālayas and the Kuenlun mountains, and between Baltistān and Chinese Tibet. The Karakoram range forms the northern boundary as far east as the Karakoram pass. The country is known to educated Tibetans by other names—Mangyāl, Nearis, Māryul. WT 101 131

Ladākh is one of the most elevated regions of the earth, its sparse cultivation ranging from 9,000 to 14,000 feet. The scanty population is found in scattered and secluded valleys, where along the river banks and on alluvial plateaux crops are raised by irrigation. Central Ladākh, which lies in the Indus valley, is the most important division of the country. To the north is Nubra, consisting of the valley of the Nubra river and a portion of the valley of the Shyok. The great floods of the Indus, caused by the descent of glaciers across its stream and that of the Shyok, and the consequent damming back of the Nubra river have caused great destruction to riverain lands, once cultivated but now wastes of granitic sand. Here the fields are fenced to guard the crops from the ponies of traders on their way to Yārkand. The south is the Rupshu country with its great lakes. Rupshu Lake covers an area of 60 to 70 square miles. Tsomoriri is 15 miles in length, and lies at an elevation of 14,900 feet. The lakes are land-locked and brackish. East of Central Ladākh is the lake of Pangkong, and in its neighbourhood crops of beardless barley and peas are raised at an elevation of 14,000 feet. South-west is the country of Zāskār, with a very severe climate chilled by the lofty snow ranges. Physical aspects. WT 133 WT [241] WT [241] WT [232]

The flora of Ladākh is scanty, and timber and fuel are the most pressing wants of the people. The *burtse* (*Eurotia*) is a low-growing bush which gives a fair fuel, and in the high valleys the *dama*, a kind of furze, is burnt. On some hill-sides the pencil cedar (*padam*) occurs; and in occasional ravines the wild willow is found. Arboriculture used to be discountenanced under the Gialpos, on the ground that trees deprived the land of fertility. Botany. WT 137 WT [245]

On the plains up to 17,000 feet wild asses or *kiang* (*Equus hemionus*), antelope (*Panthalops hodgsoni*), wild yak (*Bos grunniens*), ibex (*Capra sibirica*), and several kinds of wild sheep (*Ovis hodgsoni*, *O. nigrā*, and *O. nahura*) are found; and Fauna. WT 136